



Directional Survey Certification

2948 I-70 Business Loop
Grand Junction, CO 81504
(970)-245-9447 Fax (970)-245-9454

| | |
|-----------------|--------------------------|
| Operator | TEP Rocky Mountain, LLC. |
| Well Name & No. | SR 412-12 |
| County & State | Garfield County, CO |
| SDI Job No. | OP.005437 |
| Rig | H&P 318 |

I, Mel Mireles Jr., having personal knowledge of all the facts, hereby certify that the attached directional survey run from a measured depth of 123 feet to a measured depth of 9,997 feet is true and correct as determined from all available records.

A handwritten signature in black ink, appearing to read 'Mel Mireles Jr.', written over a horizontal line.

Signature

27-Nov-17

Date

Mel Mireles Jr.

Grand Junction Assistant Well Planner
Scientific Drilling - Colorado District

| | | | |
|------------------|---------------------------|-------------------------------------|--|
| Company: | TEP Rocky Mountain LLC | Local Co-ordinate Reference: | Well SR 412-12 - Slot SR 412-12 (A2) |
| Project: | Garfield County, CO NAD83 | TVD Reference: | GL 7478' & RKB 24' @ 7502.00usft (H&P 318) |
| Site: | SR 23-12 Pad | MD Reference: | GL 7478' & RKB 24' @ 7502.00usft (H&P 318) |
| Well: | SR 412-12 | North Reference: | True |
| Wellbore: | OH | Survey Calculation Method: | Minimum Curvature |
| Design: | OH | Database: | Grand Junction District |

| | | | |
|--------------------|---------------------------|----------------------|----------------|
| Project | Garfield County, CO NAD83 | | |
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | Colorado Central Zone | | |

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|-----------------------|-----|--------------|-------------------|------------|-------------------|---------|
| Site | | SR 23-12 Pad | | | | |
| Site Position: | | Northing: | 1,597,713.40 usft | Latitude: | 39.4511965 | |
| From: | Map | Easting: | 2,340,229.70 usft | Longitude: | -107.8367194 | |
| Position Uncertainty: | | 0.00 usft | Slot Radius: | 13.20 in | Grid Convergence: | -1.47 ° |

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|----------------------|---------------------------------|-----------|---------------------|-------------------|---------------|---------------|
| Well | SR 412-12 - Slot SR 412-12 (A2) | | | | | |
| Well Position | +N/-S | 0.00 usft | Northing: | 1,597,706.40 usft | Latitude: | 39.4511775 |
| | +E/-W | 0.00 usft | Easting: | 2,340,232.40 usft | Longitude: | -107.8367092 |
| Position Uncertainty | | 0.00 usft | Wellhead Elevation: | 0.00 usft | Ground Level: | 7,478.00 usft |

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|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | OH | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | HDGM | 10/28/2017 | 9.23 | 65.65 | 51,653 |

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|--------------------------|--------------------------------|---------------------|---------------------|----------------------|------|
| Design | OH | | | | |
| Audit Notes: | | | | | |
| Version: | 1.0 | Phase: | ACTUAL | Tie On Depth: | 0.00 |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) | |
| | 0.00 | 0.00 | 0.00 | 298.35 | |

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|-----------------------|------------------|--|------------------|------------------------------------|
| Survey Program | Date | 11/27/2017 | | |
| From (usft) | To (usft) | Survey (Wellbore) | Tool Name | Description |
| 123.00 | 751.00 | Survey #1 - Gyro MWD Survey (OH) | SDI Gyro MWD 104 | SDI Gyro MWD Error Model Ver 1.0.4 |
| 845.00 | 1,064.00 | Survey #2 - Surface MWD Survey (OH) | SDI MWD | SDI MWD - Standard ver 1.0.1 |
| 1,178.00 | 9,997.00 | Survey #3 - Production MWD Survey (OH) | SDI MWD | SDI MWD - Standard ver 1.0.1 |

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|----------------------------------|------------------------|--------------------|------------------------------|---------------------|---------------------|--------------------------------|--------------------------------|-------------------------------|------------------------------|
| Survey | | | | | | | | | |
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 123.00 | 0.44 | 293.38 | 123.00 | 0.19 | -0.43 | 0.47 | 0.36 | 0.36 | 0.00 |
| First SDI Gyro MWD Survey | | | | | | | | | |
| 215.00 | 2.99 | 290.21 | 214.95 | 1.16 | -3.01 | 3.20 | 2.77 | 2.77 | -3.45 |
| 308.00 | 5.81 | 294.17 | 307.67 | 3.92 | -9.58 | 10.30 | 3.05 | 3.03 | 4.26 |
| 400.00 | 8.45 | 306.30 | 398.95 | 9.83 | -19.28 | 21.64 | 3.29 | 2.87 | 13.18 |
| 493.00 | 11.96 | 307.18 | 490.47 | 19.70 | -32.47 | 37.93 | 3.78 | 3.77 | 0.95 |
| 585.00 | 14.68 | 307.01 | 579.98 | 32.48 | -49.38 | 58.88 | 2.96 | 2.96 | -0.18 |
| 676.00 | 17.59 | 301.73 | 667.39 | 46.66 | -70.28 | 84.01 | 3.58 | 3.20 | -5.80 |

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|------------------|---------------------------|-------------------------------------|--|
| Company: | TEP Rocky Mountain LLC | Local Co-ordinate Reference: | Well SR 412-12 - Slot SR 412-12 (A2) |
| Project: | Garfield County, CO NAD83 | TVD Reference: | GL 7478' & RKB 24' @ 7502.00usft (H&P 318) |
| Site: | SR 23-12 Pad | MD Reference: | GL 7478' & RKB 24' @ 7502.00usft (H&P 318) |
| Well: | SR 412-12 | North Reference: | True |
| Wellbore: | OH | Survey Calculation Method: | Minimum Curvature |
| Design: | OH | Database: | Grand Junction District |

| Survey | | | | | | | | | |
|---------------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 751.00 | 20.15 | 297.45 | 738.36 | 58.58 | -91.39 | 108.25 | 3.88 | 3.41 | -5.71 |
| Last SDI Gyro MWD Survey | | | | | | | | | |
| 845.00 | 23.89 | 296.22 | 825.49 | 74.46 | -122.85 | 143.47 | 4.01 | 3.98 | -1.31 |
| First SDI Surface MWD Survey | | | | | | | | | |
| 939.00 | 27.62 | 296.63 | 910.14 | 92.64 | -159.41 | 184.28 | 3.97 | 3.97 | 0.44 |
| 1,034.00 | 28.52 | 297.40 | 993.96 | 112.95 | -199.23 | 228.97 | 1.02 | 0.95 | 0.81 |
| 1,064.00 | 28.49 | 297.25 | 1,020.32 | 119.52 | -211.95 | 243.29 | 0.26 | -0.10 | -0.50 |
| Last SDI Surface MWD Survey | | | | | | | | | |
| 1,171.00 | 28.52 | 296.09 | 1,114.36 | 142.44 | -257.58 | 294.32 | 0.52 | 0.03 | -1.08 |
| First SDI Production MWD Survey | | | | | | | | | |
| 1,266.00 | 28.55 | 295.07 | 1,197.82 | 162.03 | -298.51 | 339.65 | 0.52 | 0.03 | -1.08 |
| 1,362.00 | 29.37 | 299.09 | 1,281.82 | 183.20 | -339.86 | 386.10 | 2.20 | 0.85 | 4.19 |
| 1,456.00 | 29.74 | 299.58 | 1,363.59 | 205.92 | -380.28 | 432.46 | 0.47 | 0.39 | 0.52 |
| 1,556.00 | 30.53 | 303.23 | 1,450.08 | 232.08 | -423.11 | 482.57 | 2.00 | 0.79 | 3.65 |
| 1,650.00 | 30.78 | 303.93 | 1,530.94 | 258.59 | -463.03 | 530.29 | 0.46 | 0.27 | 0.74 |
| 1,745.00 | 30.85 | 303.23 | 1,612.53 | 285.51 | -503.58 | 578.75 | 0.38 | 0.07 | -0.74 |
| 1,839.00 | 31.21 | 302.81 | 1,693.08 | 311.91 | -544.21 | 627.05 | 0.45 | 0.38 | -0.45 |
| 1,936.00 | 30.30 | 304.63 | 1,776.44 | 339.44 | -585.47 | 676.43 | 1.34 | -0.94 | 1.88 |
| 2,030.00 | 29.90 | 303.85 | 1,857.76 | 365.96 | -624.43 | 723.32 | 0.60 | -0.43 | -0.83 |
| 2,124.00 | 29.35 | 303.85 | 1,939.48 | 391.85 | -663.02 | 769.57 | 0.59 | -0.59 | 0.00 |
| 2,219.00 | 29.27 | 303.28 | 2,022.32 | 417.56 | -701.78 | 815.89 | 0.31 | -0.08 | -0.60 |
| 2,314.00 | 29.00 | 302.98 | 2,105.30 | 442.84 | -740.51 | 861.98 | 0.32 | -0.28 | -0.32 |
| 2,408.00 | 29.28 | 302.55 | 2,187.40 | 467.61 | -779.00 | 907.61 | 0.37 | 0.30 | -0.46 |
| 2,502.00 | 29.09 | 301.89 | 2,269.46 | 492.05 | -817.78 | 953.35 | 0.40 | -0.20 | -0.70 |
| 2,596.00 | 28.96 | 301.47 | 2,351.66 | 516.00 | -856.59 | 998.88 | 0.26 | -0.14 | -0.45 |
| 2,691.00 | 28.71 | 301.25 | 2,434.88 | 539.84 | -895.71 | 1,044.63 | 0.29 | -0.26 | -0.23 |
| 2,786.00 | 27.71 | 300.81 | 2,518.60 | 563.00 | -934.19 | 1,089.49 | 1.08 | -1.05 | -0.46 |
| 2,880.00 | 27.41 | 300.16 | 2,601.93 | 585.06 | -971.67 | 1,132.95 | 0.45 | -0.32 | -0.69 |
| 2,975.00 | 27.17 | 301.00 | 2,686.36 | 607.22 | -1,009.17 | 1,176.47 | 0.48 | -0.25 | 0.88 |
| 3,069.00 | 26.79 | 299.94 | 2,770.13 | 628.84 | -1,045.92 | 1,219.09 | 0.65 | -0.40 | -1.13 |
| 3,163.00 | 27.87 | 299.74 | 2,853.63 | 650.32 | -1,083.36 | 1,262.23 | 1.15 | 1.15 | -0.21 |
| 3,258.00 | 27.95 | 299.81 | 2,937.58 | 672.40 | -1,121.95 | 1,306.68 | 0.09 | 0.08 | 0.07 |
| 3,352.00 | 27.55 | 298.79 | 3,020.77 | 693.82 | -1,160.12 | 1,350.44 | 0.66 | -0.43 | -1.09 |
| 3,446.00 | 26.88 | 298.57 | 3,104.36 | 714.45 | -1,197.83 | 1,393.43 | 0.72 | -0.71 | -0.23 |
| 3,541.00 | 28.40 | 301.38 | 3,188.52 | 736.49 | -1,235.99 | 1,437.47 | 2.11 | 1.60 | 2.96 |
| 3,636.00 | 28.05 | 301.11 | 3,272.23 | 759.79 | -1,274.40 | 1,482.34 | 0.39 | -0.37 | -0.28 |
| 3,730.00 | 27.58 | 300.96 | 3,355.37 | 782.41 | -1,311.98 | 1,526.16 | 0.51 | -0.50 | -0.16 |
| 3,824.00 | 27.11 | 300.86 | 3,438.86 | 804.59 | -1,349.03 | 1,569.29 | 0.50 | -0.50 | -0.11 |
| 3,919.00 | 25.85 | 300.32 | 3,523.89 | 826.15 | -1,385.49 | 1,611.62 | 1.35 | -1.33 | -0.57 |
| 4,013.00 | 26.17 | 301.32 | 3,608.37 | 847.27 | -1,420.89 | 1,652.80 | 0.58 | 0.34 | 1.06 |
| 4,108.00 | 25.81 | 301.19 | 3,693.77 | 868.87 | -1,456.47 | 1,694.37 | 0.38 | -0.38 | -0.14 |
| 4,202.00 | 24.43 | 300.19 | 3,778.87 | 889.24 | -1,490.78 | 1,734.24 | 1.54 | -1.47 | -1.06 |
| 4,291.00 | 23.49 | 299.90 | 3,860.20 | 907.34 | -1,522.07 | 1,770.37 | 1.06 | -1.06 | -0.33 |
| 4,391.00 | 23.30 | 299.47 | 3,951.98 | 927.00 | -1,556.56 | 1,810.06 | 0.26 | -0.19 | -0.43 |

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| Site: | SR 23-12 Pad | MD Reference: | GL 7478' & RKB 24' @ 7502.00usft (H&P 318) |
| Well: | SR 412-12 | North Reference: | True |
| Wellbore: | OH | Survey Calculation Method: | Minimum Curvature |
| Design: | OH | Database: | Grand Junction District |

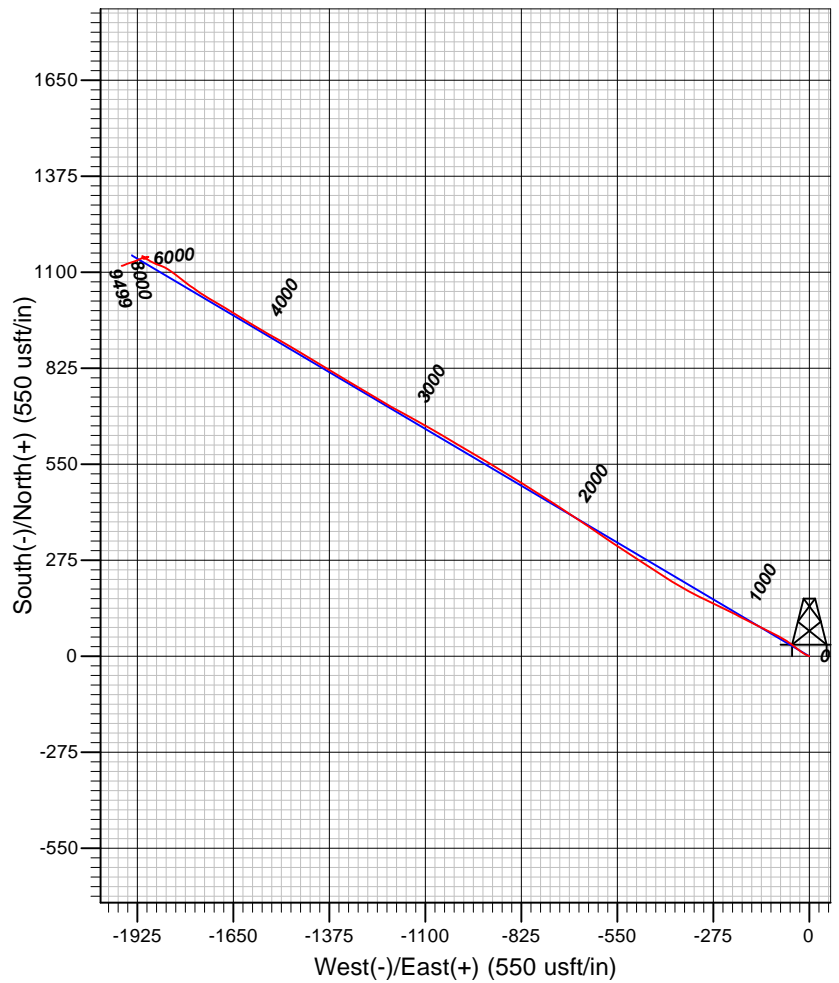
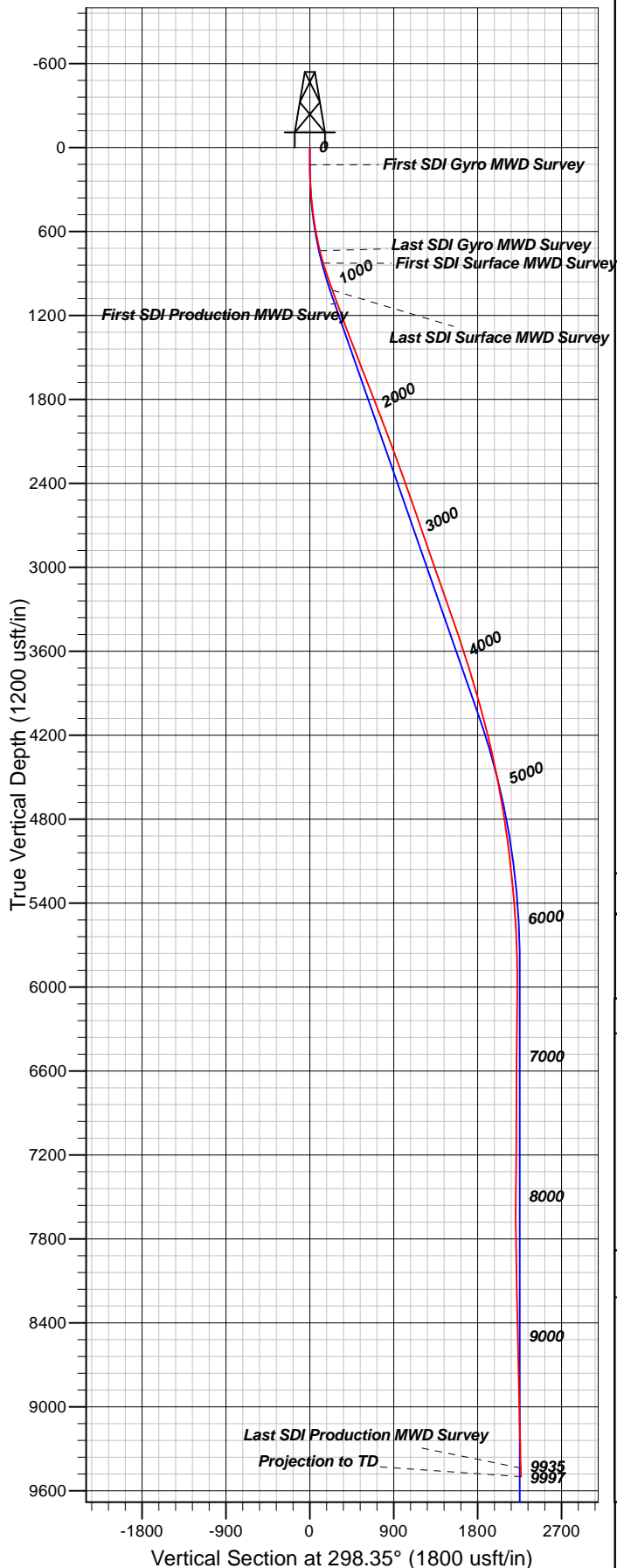
| Survey | | | | | | | | | |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 4,485.00 | 21.38 | 300.90 | 4,038.93 | 944.95 | -1,587.45 | 1,845.77 | 2.12 | -2.04 | 1.52 |
| 4,580.00 | 21.63 | 301.11 | 4,127.31 | 962.89 | -1,617.30 | 1,880.56 | 0.28 | 0.26 | 0.22 |
| 4,674.00 | 20.08 | 301.46 | 4,215.15 | 980.26 | -1,645.90 | 1,913.98 | 1.65 | -1.65 | 0.37 |
| 4,769.00 | 19.43 | 301.73 | 4,304.56 | 997.08 | -1,673.25 | 1,946.04 | 0.69 | -0.68 | 0.28 |
| 4,863.00 | 17.59 | 300.54 | 4,393.69 | 1,012.53 | -1,698.79 | 1,975.84 | 2.00 | -1.96 | -1.27 |
| 4,957.00 | 16.80 | 301.03 | 4,483.49 | 1,026.75 | -1,722.66 | 2,003.60 | 0.85 | -0.84 | 0.52 |
| 5,052.00 | 15.12 | 303.75 | 4,574.83 | 1,040.71 | -1,744.73 | 2,029.66 | 1.94 | -1.77 | 2.86 |
| 5,147.00 | 15.04 | 304.10 | 4,666.56 | 1,054.50 | -1,765.24 | 2,054.25 | 0.13 | -0.08 | 0.37 |
| 5,242.00 | 13.54 | 307.97 | 4,758.62 | 1,068.26 | -1,784.21 | 2,077.48 | 1.87 | -1.58 | 4.07 |
| 5,337.00 | 13.28 | 308.59 | 4,851.03 | 1,081.90 | -1,801.51 | 2,099.19 | 0.31 | -0.27 | 0.65 |
| 5,432.00 | 10.83 | 306.10 | 4,943.92 | 1,093.97 | -1,817.25 | 2,118.77 | 2.64 | -2.58 | -2.62 |
| 5,527.00 | 10.43 | 304.93 | 5,037.29 | 1,104.15 | -1,831.51 | 2,136.16 | 0.48 | -0.42 | -1.23 |
| 5,622.00 | 8.57 | 298.28 | 5,130.99 | 1,112.43 | -1,844.80 | 2,151.78 | 2.27 | -1.96 | -7.00 |
| 5,717.00 | 9.94 | 290.19 | 5,224.75 | 1,118.61 | -1,858.73 | 2,166.98 | 1.99 | 1.44 | -8.52 |
| 5,811.00 | 8.44 | 292.77 | 5,317.55 | 1,124.08 | -1,872.70 | 2,181.87 | 1.65 | -1.60 | 2.74 |
| 5,906.00 | 6.07 | 298.83 | 5,411.78 | 1,129.21 | -1,883.53 | 2,193.84 | 2.62 | -2.49 | 6.38 |
| 6,000.00 | 5.94 | 300.76 | 5,505.26 | 1,134.09 | -1,892.07 | 2,203.67 | 0.26 | -0.14 | 2.05 |
| 6,094.00 | 4.70 | 305.53 | 5,598.86 | 1,138.82 | -1,899.38 | 2,212.35 | 1.40 | -1.32 | 5.07 |
| 6,189.00 | 2.64 | 308.76 | 5,693.66 | 1,142.45 | -1,904.26 | 2,218.36 | 2.18 | -2.17 | 3.40 |
| 6,283.00 | 2.08 | 299.32 | 5,787.58 | 1,144.64 | -1,907.43 | 2,222.20 | 0.72 | -0.60 | -10.04 |
| 6,339.45 | 1.99 | 298.57 | 5,844.00 | 1,145.61 | -1,909.18 | 2,224.20 | 0.17 | -0.16 | -1.32 |
| SR 412-12 BTV | | | | | | | | | |
| 6,377.00 | 1.93 | 298.04 | 5,881.52 | 1,146.22 | -1,910.31 | 2,225.48 | 0.17 | -0.16 | -1.42 |
| 6,395.00 | 0.70 | 198.29 | 5,899.52 | 1,146.26 | -1,910.62 | 2,225.77 | 12.01 | -6.83 | -554.17 |
| 6,566.00 | 0.87 | 159.79 | 6,070.50 | 1,144.05 | -1,910.50 | 2,224.61 | 0.32 | 0.10 | -22.51 |
| 6,660.00 | 1.03 | 150.73 | 6,164.49 | 1,142.64 | -1,909.84 | 2,223.36 | 0.23 | 0.17 | -9.64 |
| 6,755.00 | 0.90 | 149.70 | 6,259.48 | 1,141.25 | -1,909.04 | 2,222.01 | 0.14 | -0.14 | -1.08 |
| 6,849.00 | 0.79 | 146.78 | 6,353.47 | 1,140.07 | -1,908.32 | 2,220.80 | 0.13 | -0.12 | -3.11 |
| 6,944.00 | 0.79 | 127.36 | 6,448.46 | 1,139.13 | -1,907.44 | 2,219.58 | 0.28 | 0.00 | -20.44 |
| 7,038.00 | 0.77 | 121.37 | 6,542.45 | 1,138.40 | -1,906.38 | 2,218.31 | 0.09 | -0.02 | -6.37 |
| 7,133.00 | 0.70 | 87.43 | 6,637.44 | 1,138.10 | -1,905.26 | 2,217.18 | 0.46 | -0.07 | -35.73 |
| 7,227.00 | 0.60 | 78.43 | 6,731.43 | 1,138.22 | -1,904.20 | 2,216.31 | 0.15 | -0.11 | -9.57 |
| 7,322.00 | 0.39 | 53.88 | 6,826.43 | 1,138.51 | -1,903.45 | 2,215.79 | 0.31 | -0.22 | -25.84 |
| 7,416.00 | 0.47 | 63.77 | 6,920.43 | 1,138.87 | -1,902.85 | 2,215.42 | 0.12 | 0.09 | 10.52 |
| 7,510.00 | 0.41 | 41.45 | 7,014.43 | 1,139.29 | -1,902.28 | 2,215.12 | 0.19 | -0.06 | -23.74 |
| 7,604.00 | 0.53 | 63.63 | 7,108.42 | 1,139.74 | -1,901.67 | 2,214.80 | 0.23 | 0.13 | 23.60 |
| 7,699.00 | 1.06 | 41.75 | 7,203.41 | 1,140.59 | -1,900.69 | 2,214.34 | 0.63 | 0.56 | -23.03 |
| 7,793.00 | 1.32 | 55.72 | 7,297.39 | 1,141.85 | -1,899.22 | 2,213.64 | 0.41 | 0.28 | 14.86 |
| 7,887.00 | 1.41 | 72.16 | 7,391.37 | 1,142.81 | -1,897.22 | 2,212.34 | 0.43 | 0.10 | 17.49 |
| 7,982.00 | 1.41 | 69.70 | 7,486.34 | 1,143.58 | -1,895.01 | 2,210.76 | 0.06 | 0.00 | -2.59 |
| 8,076.00 | 0.70 | 101.95 | 7,580.32 | 1,143.86 | -1,893.36 | 2,209.45 | 0.96 | -0.76 | 34.31 |
| 8,170.00 | 1.23 | 248.82 | 7,674.32 | 1,143.37 | -1,893.74 | 2,209.55 | 1.97 | 0.56 | 156.24 |
| 8,265.00 | 1.85 | 267.54 | 7,769.28 | 1,142.94 | -1,896.23 | 2,211.53 | 0.83 | 0.65 | 19.71 |

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| Well: | SR 412-12 | North Reference: | True |
| Wellbore: | OH | Survey Calculation Method: | Minimum Curvature |
| Design: | OH | Database: | Grand Junction District |

| Survey | | | | | | | | | | |
|--|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|--|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | |
| 8,359.00 | 1.88 | 265.43 | 7,863.23 | 1,142.75 | -1,899.28 | 2,214.13 | 0.08 | 0.03 | -2.24 | |
| 8,454.00 | 1.67 | 256.47 | 7,958.19 | 1,142.30 | -1,902.18 | 2,216.46 | 0.37 | -0.22 | -9.43 | |
| 8,548.00 | 1.58 | 255.76 | 8,052.15 | 1,141.67 | -1,904.77 | 2,218.44 | 0.10 | -0.10 | -0.76 | |
| 8,643.00 | 1.41 | 260.42 | 8,147.12 | 1,141.15 | -1,907.19 | 2,220.32 | 0.22 | -0.18 | 4.91 | |
| 8,737.00 | 2.03 | 254.58 | 8,241.07 | 1,140.51 | -1,909.93 | 2,222.44 | 0.68 | 0.66 | -6.21 | |
| 8,832.00 | 2.19 | 250.04 | 8,336.01 | 1,139.45 | -1,913.26 | 2,224.86 | 0.24 | 0.17 | -4.78 | |
| 8,926.00 | 2.93 | 244.66 | 8,429.91 | 1,137.80 | -1,917.12 | 2,227.48 | 0.83 | 0.79 | -5.72 | |
| 9,020.00 | 3.31 | 247.96 | 8,523.78 | 1,135.76 | -1,921.81 | 2,230.63 | 0.45 | 0.40 | 3.51 | |
| 9,115.00 | 3.51 | 246.73 | 8,618.61 | 1,133.58 | -1,927.02 | 2,234.19 | 0.22 | 0.21 | -1.29 | |
| 9,209.00 | 3.59 | 246.75 | 8,712.43 | 1,131.28 | -1,932.37 | 2,237.80 | 0.09 | 0.09 | 0.02 | |
| 9,304.00 | 3.52 | 252.16 | 8,807.24 | 1,129.21 | -1,937.88 | 2,241.67 | 0.36 | -0.07 | 5.69 | |
| 9,398.00 | 2.51 | 253.33 | 8,901.11 | 1,127.74 | -1,942.60 | 2,245.12 | 1.08 | -1.07 | 1.24 | |
| 9,493.00 | 2.63 | 256.76 | 8,996.02 | 1,126.64 | -1,946.71 | 2,248.22 | 0.21 | 0.13 | 3.61 | |
| 9,587.00 | 2.80 | 243.98 | 9,089.91 | 1,125.14 | -1,950.87 | 2,251.17 | 0.67 | 0.18 | -13.60 | |
| 9,682.00 | 2.73 | 250.75 | 9,184.80 | 1,123.38 | -1,955.09 | 2,254.05 | 0.35 | -0.07 | 7.13 | |
| 9,776.00 | 3.08 | 243.11 | 9,278.68 | 1,121.50 | -1,959.46 | 2,257.00 | 0.55 | 0.37 | -8.13 | |
| 9,871.00 | 2.91 | 251.76 | 9,373.55 | 1,119.59 | -1,964.03 | 2,260.11 | 0.51 | -0.18 | 9.11 | |
| 9,935.00 | 2.73 | 252.25 | 9,437.48 | 1,118.62 | -1,967.02 | 2,262.28 | 0.28 | -0.28 | 0.77 | |
| Last SDI Production MWD Survey | | | | | | | | | | |
| 9,997.00 | 2.73 | 252.25 | 9,499.40 | 1,117.72 | -1,969.83 | 2,264.33 | 0.00 | 0.00 | 0.00 | |
| Projection to TD - SR 412-12 PBHL | | | | | | | | | | |

| Design Annotations | | | | | |
|-----------------------|-----------------------|-------------------|--------------|---------------------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | | |
| | | +N/-S (usft) | +E/-W (usft) | Comment | |
| 123.00 | 123.00 | 0.19 | -0.43 | First SDI Gyro MWD Survey | |
| 751.00 | 738.36 | 58.58 | -91.39 | Last SDI Gyro MWD Survey | |
| 845.00 | 825.49 | 74.46 | -122.85 | First SDI Surface MWD Survey | |
| 1,064.00 | 1,020.32 | 119.52 | -211.95 | Last SDI Surface MWD Survey | |
| 1,171.00 | 1,114.36 | 142.44 | -257.58 | First SDI Production MWD Survey | |
| 9,935.00 | 9,437.48 | 1,118.62 | -1,967.02 | Last SDI Production MWD Survey | |
| 9,997.00 | 9,499.40 | 1,117.72 | -1,969.83 | Projection to TD | |

| | | |
|-------------------|--------------------|-------------|
| Checked By: _____ | Approved By: _____ | Date: _____ |
|-------------------|--------------------|-------------|



Well Details: SR 412-12

TVD Reference: GL 7478' & RKB 24' @ 7502.00usft (H&P 318) Level: 7478.00
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.00 0.00 1597706.40 2340232.40 39.4511775 -107.8367092SR 412-12 (A2)

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well SR 412-12 - Slot SR 412-12 (A2), True North
 Vertical (TVD) Reference: GL 7478' & RKB 24' @ 7502.00usft (H&P 318)
 Section (VS) Reference: Slot - SR 412-12 (A2)(0.00N, 0.00E)
 Measured Depth Reference: GL 7478' & RKB 24' @ 7502.00usft (H&P 318)
 Calculation Method: Minimum Curvature

PROJECT DETAILS: Garfield County, CO NAD83

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: Colorado Central Zone

System Datum: Mean Sea Level

Plan: OH

21:26, November 27 2017
 Created By: Mel Mireles Jr.